

ENVIRONMENTAL PROTECTION AGENCY

(OPTS-42015; TSH-FRL 2203-2)

Chlorendic Acid; Response to the Interagency Testing Committee

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: This notice is EPA's response to the Interagency Testing Committee's recommendation that EPA require environmental effects testing of chlorendic acid under section 4(a) of the Toxic Substances Control Act (TSCA). EPA is not initiating rulemaking under section 4(a) to require environmental effects testing of chlorendic acid because the release of chlorendic acid to the environment is extremely limited.

FOR FURTHER INFORMATION CONTACT: Douglas G. Bannerman, Acting Director, Industry Assistance Office (TS-799), Office of Toxic Substances, Environmental Protection Agency, Rm. F-511, 401 M St. SW., Washington, DC 20460. Toll Free: (800-424-9065); in Washington, DC: (544-1404); outside the USA: (Operator-202-554-1404).

SUPPLEMENTARY INFORMATION:

I. Background

Section 4(e) of TSCA (Pub. L. 94-169, 90 Stat. 2003; 15 U.S.C. 2601 *et seq.*) established an Interagency Testing Committee (ITC) to recommend a list of chemicals for EPA to consider for promulgation of testing rules under section 4(a) of the Act. The ITC may designate substances for priority consideration by EPA. TSCA requires EPA to respond within 12 months of the date a substance is designated for priority response by initiating

rulemaking under section 4(a) or by publishing reasons in the Federal Register for not initiating rulemaking.

The ITC designated chlorendic acid (CA) for priority consideration in its Ninth Report, published in the Federal Register of February 5, 1982 (47 FR 5456), recommending that it be tested for the following environmental effects: Chemical fate, acute and chronic toxicity to fish and aquatic invertebrates, and toxicity to aquatic macrophytes and algae. The ITC's recommendations were based upon the reported industrial use of CA and its anhydride of approximately 7 million pounds a year in the U.S., supplied both from U.S. production and imports. In addition, the ITC report indicated that CA may be released to the environment during preparation of flame-resistant polymers, polyesters and pesticides and may enter the environment in the wastewater from flameproofing processes in the textile industry. Other factors included in the ITC's report were the possibilities that some highly chlorinated norbornene pesticides would degrade to CA in the soil and that CA would behave like certain highly chlorinated norbornene compounds that exhibit considerable resistance to degradation.

Chlorendic anhydride (CAN) is the manufacturing precursor of CA. Ca is produced by the hydrolysis of the anhydride. While Ca was the designated chemical in the Ninth Report, it became apparent that because CAN readily hydrolyzes to the acid in the aquatic environment, the anhydride should be included in the Agency's review.

This notice provides EPA's response to the ITC's designation of CA for testing.

II. Decision Not To Test

EPA has decided that section 4 testing of CA is not warranted at this time because release of CA and CAN to the environment is extremely limited. Furthermore, the available data indicate that such releases are unlikely to present an unreasonable risk.

There are only two manufacturers of CA/CAN in the U.S. CA is imported into the U.S. by Occidental Chemical Company and CAN is produced by Velsicol Chemical Corporation at one plant in Memphis, Tennessee.

Confidential business information submitted to EPA by Occidental and Velsicol, and reviewed by the Agency, showed that the amounts of CA and CAN being released to the environment are quite low and localized, and are well within applicable permit allowances. The Velsicol submission further

described the production of CAN and treatment of the wastes. Two of the three reported waste streams, accounting for nearly 50 percent of the total waste from the CAN manufacturing process, go to secure landfills. The other 50 percent of the waste goes to a high-efficiency thermal incinerator.

CAN is coproduced with hexachlorocyclopentadiene (HEX) at the Memphis plant. Because HEX wastes are controlled under the Resource Conservation and Recovery Act (RCRA), all CAN wastes, coproduced with HEX, are also controlled to HEX limits. HEX waste streams are listed as "hazardous wastes" under RCRA, 40 CFR Part 261. This means that HEX wastes, and coincidentally CAN wastes, are subject to the RCRA guidelines for thermal processing and land disposal of hazardous wastes.

CA/CAN can be used in the manufacturing of polyesters, polyester resins, epoxy resins for printed circuit boards and as intermediates in pesticide production. However, the major use for CA/CAN is the production of one unsaturated polyester resin, "Hutron", manufactured by Ashland Chemical Company. About four million pounds of CA/CAN (95 percent of all production and importation) are used in this manufacturing process which is a closed system that chemically transforms the CA/CAN into the flame retardant unsaturated polyester resin. Losses of CA/CAN in the process are reported as negligible (Refs. 1 and 2).

In addition, the currently available data demonstrate that should CA or CAN reach the environment, they are not expected to bioconcentrate in aquatic species, nor bioaccumulate in the food chain (Ref. 3). Furthermore, available acute toxicity data on three aquatic species, two vertebrate and one invertebrate, show that CA has a very low order of toxicity to the test species (Ref. 4).

One of the ITC's reasons for including CA in its Ninth Report was because it was thought to be structurally similar to certain highly chlorinated pesticides such as chlordane, heptachlor, dieldrin and endrin. The Committee believed that CA might exhibit the same high level of toxicity to aquatic organisms as seen for those chemicals. However, the available data do not appear to support this hypothesis. For example, while CA has a 96-hour LC50 of 422 ppm on bluegill sunfish (Ref. 4), the above-named pesticides have a 96-hour LC50 ranging from 0.0006 ppm to 0.022 ppm on the same species (Ref. 5). Thus, the acute aquatic toxicity of CA to the test species has no similarities to the acute aquatic toxicity of the structurally-

related, highly toxic pesticides. While EPA generally believes that structural similarity provides a basis for suspecting similarity in biological activity, in this case the available test data do not support such a concern.

Based on the information available, EPA has concluded that CA/CAN do not enter the environment in substantial quantities. In addition, an analysis of the data available on the substance, indicates that EPA would have no basis for finding that CA/CAN "may present an unreasonable risk to the environment." Therefore, EPA has decided that section 4 testing cannot be required at this time. If in the future any monitoring data compiled under RCRA or other data indicate an increase in release of or exposure to CA or CAN, this decision not to require testing may be reconsidered at that time.

III. Public Record

EPA has established a public record for this testing decision (docket number OPTS-42016) which is available for inspection in the OPTS Reading Room from 8:00 a.m. to 4:00 p.m. on working days in Rm. E-107, 401 M St. SW., Washington, DC 20460. This record includes basic information considered by the Agency in developing this decision. The Agency will supplement the record with additional relevant information as it is received. The record includes the following information:

1. Federal Register notice containing the designation of chlorendic acid to the Priority List.
2. Contractor reports.
3. Communications (public, intra-agency, and interagency) consisting of memoranda and letters, contact reports of telephone conversations, meetings, public comments on the ITC report, published and unpublished data.
4. Confidential Business Information submissions by Occidental Chemical Co. and Velsicol Chemical Co. While part of the record, these submissions are not available for public review.

IV. References

1. Velsicol Chemical Co. letter by Carlson, S. E. to Cazzalino, D. L. (Enviro Control, Inc.), dated December 3, 1981.
2. Ashland Chemical Co. letter by Toeniskoetter, R. H. to Cazzalino, D. L. (Enviro Control, Inc.), dated August 13, 1981.
3. Veith, G. D. memo to G. W. Dickson, August 4, 1981.
4. Velsicol Chemical Co. Response to the Ninth ITC Report, March 8, 1982, Vol 1.
5. Ecological Effects of Pesticides on Non-Target Species, Office of Science and Technology, Executive Office of the President, 1971.

Dated: October 1, 1982.

Anne M. Gorsuch,
Administrator.

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